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ABSTRACT

The purpose of this report was to consider factors that might be important for understanding how schools as organizations respond to environmental stress. Literature from psychology, sociology, education, and political science is reviewed and an attempt is made to integrate a diverse body of findings, using concepts from general systems theory and from stress research. A framework is presented that identifies variables of interest, suggests possible dynamic processes, and considers situational factors that facilitate and inhibit behavior. Some suggestions for the conduct of research are offered in the hope that future efforts to study schools as organizations would include concepts from psychology and sociology. (Author/MLF)

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Individual and Group Behavior in Educational Organizations under Environmental Stress

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Individual and Group Behavior in

Educational Organizations under Environmental Stress

This paper is about the behavior of individuals and groups in educational organizations that are operating in potentially stressful environments. Literature from psychology, sociology, education, and political science is reviewed and an attempt is made to integrate a diverse body of findings. A framework is presented that identifies variables of interest, suggests possible dynamic processes, and considers situational factors that facilitate and inhibit behavior. Suggestions for the conduct of research in this area are proposed.

Point of Departure

Three things about the current state of research on organizations became more and more apparent while doing background reading for the writing of this report. First, little attention has been paid to issues concerning units of analysis. Recent discussions of this have just begun to appear (cf. Hannan and Freeman, 1978 (a); Roberts, Hulin and Rousseau, 1978). There are, for example, at least eight units or levels of analysis that someone interested in organizations might study. These are: (1) differences among individuals on variables that pertain to such things as personality, ability, and attitudes; (2) differences in the observable behavior and effectiveness of individuals such as turnover and productivity; (3) relationships among dyads that deal with social exchange, influence, power and other similar interpersonal factors; (4) behavior within and among groups such as group formations, decision making, norms, and conflict; (5) behaviors that

deal with coordination, control, resource allocation and resource acquisition within and among organizational departments and units; (6) ideographic studies of a particular organization's growth, decline, and current functioning; (7) comparative studies of organizations within the same industry such as health care delivery systems and schools, or organizations that share a common technology such as unit, batch, and process; and (8) comparative studies among populations of organizations such as non-profit vs. profit making organizations. The implication of this lack of attention to units of analysis has been the development of models and theories of organizations that focus primarily on micro or macro aspects. This has resulted in a simplified view of organizations.

The second observation that can be made from reading the literature is closely related to the first. Organizations have been studied by people from different disciplines who use different paradigms. In a broad sense, paradigms provide researchers with a set of conceptual lenses from which to view phenomena (Kuhn, 1970). Three dominant paradigms in use for studying organizations appear to be: (1) the industrial psychology paradigm, (2) the social psychology paradigm, and (3) the organizational sociology paradigm. The industrial psychology paradigm attempts to understand individual behavior in organizations from knowledge of individual difference variables: a micro-view is predominant. The social psychology paradigm focuses on individual and group behavior within a social context. This view also is micro in orientation but emphasis is also placed on physical and interpersonal contexts. The organizational sociology paradigm is the most macro approach. Emphasis is placed on characteristics of organizations rather than on characteristics of individuals or groups.

One implication of this perhaps obvious observation is that there has been little interaction among researchers from the various paradigms that has resulted in a comprehensive and broad empirical and theoretical base of knowledge. Industrial psychologists conduct research and propose theory as if macro variables either did not exist or were unimportant. Similarly, organizational sociologists tend to ignore the importance of individual behavior on organizational factors. It is not being proposed that research that focuses primarily at the individual level be replaced with research involving individuals and groups in samples of organizations large enough for statistical comparisons between organizations. Such research is difficult and expensive. But, to cite one example, the psychological literature is repleat with studies of employee job satisfaction that do not even acknowledge possible effects due to technology, organizational structure, or the environment. Although there is evidence that this is changing (cf. Indik, 1968; James and Jones, 1976; Lorsch and Morse, 1974) and that the growing appreciation of and frustration with open systems concepts probably has had something to do with this change, some believe that the lack of interaction among researchers from different paradigms is becoming more of a problem (cf. Roberts, et al, 1978). This current state of knowledge has made it difficult to integrate the work necessary for a somewhat thorough treatment of the effects of potentially stressful environments, a macro-level variable, on the behavior of individuals and groups, two micro-level variables.

Finally, the third observation deals with existing assumptions about behavior in organizations. Although it could be argued that current thinking about organizations lacks the rigor and precision of a theory or model, few would argue with the statement that there are different perspectives on

organizations and that these perspectives shape our research questions. Furthermore, these perspectives span the usual paradigms of industrial psychology, social psychology, and organizational sociology. These perspectives more or less have been accepted at face value and research is designed to support a particular position. For example, research supports the view that behavior in organizations is purposeful and goal directed, and, the opposite view that behavior is in many cases random and is interpreted as goal directed only after it happens. Consider the position that conflict in organizations occurs because organizations are composed of self-serving coalitions versus the view that conflict occurs because of a lack of interpersonal skill and awareness among organizational members. Research of the former view would consider such factors as the distribution of power and resources in the organization, whereas research of the latter would consider problems in person perception and communication. Both types of research would probably yield support. If one already knows what to look for one will probably find it. The problem is that one will rarely find anything contrary. What all of this means is that a more complete understanding of behavior in organizations will be attained if research is designed with a minimum of prior assumptions concerning the results. This is not an endorsement of "shotgun" research. Hypothesis generation is very important. But collected data ideally should be reasonably diverse so that "unexpected" relationships can be discovered. Restating Weick (1969) in a different context: the equivocality of our research should agree with the equivocality of the phenomenon being studied.

In summary, the current state of research and theory about organizations has little to say regarding the effects of macro-level variables on micro-level variables, and, the effects of micro-level variables on macro-

level variables. Although there are legitimate reasons for this, considerable work remains to be done that explicitly attempts to relate variables from divergent levels of analysis. The discussion that follows represents an initial approach to the integration of this parallel but non-overlapping literature.

Schools as Organizations

A major mistake in organizational research on schools has been the treatment of schools as being similar to other organization types such as private industry or government (Blumberg, 1977). In this section some salient characteristics of schools as organiztions will be discussed. A word of caution is provided, however, because as Bidwell (1965) noted, it is misleading to think that the school exists or that the blueprint of a school district is available. Schools and school districts are different from each other. Nevertheless, a review of the literature suggests some common traits.

Several writers have stated that schools and school districts are especially vulnerable to environmental pressure (Bidwell, 1965; Carlson, Gallaher, Miles, Pellegrin, and Rogers, 1965; Newman and Wallender, 1978). Schools are pluralistic organizations serving the needs of a pluralistic environment (Meyer and Rowan, 1978). This set of clients includes parents, the general public, and government at the local, state, and federal levels. There are reasons to include the school board on this list as well. The school as an organization is dependent on outside agencies for financial support. Changes in local taxation, state funding formulas, and laws concerning integration, and so forth have rather direct effects on the operation of schools.

Examples of this vulnerability to the environment are readily available and this vulnerability is a major factor in the ideas presented in this report.

Consider these three environmental demands on schools: taxation, integration, and competency tests. The effects of Proposition 13 in California and similar sentiments throughout other state and local governments are just beginning to be realized. The cutback of extra-curricula activities such as athletics, band, choir, and art, and the elimination or reduction in special services such as therapists and counselors are common. But, even more serious are the possibilities of schools temporarily closing down, as was done in parts of Ohio during 1977, or extended teacher strikes. Time magazine (November 27, 1978) reported on the bitterness that developed in Levittown, New York, over a 34 day strike concerning teacher salaries. Homeowners, many on fixed incomes with no children at home, felt cheated by increasing property taxes and by the belief that the school district was not "teaching the basics." After considerable violence, an agreement was reached. But it is doubtful if operations will return to normal in the near future. The faculty is bitterly divided, the union president was ordered to serve 20 days in jail, the union has to pay $170,000 in fines, and the average loss in pay to teachers, not including lost savings, is $5,000. Furthermore, high school seniors are competing at a disadvantage for college scholarships and property values in the school district have dropped.

Integration represents a source of pressure placed on schools by the federal government. It is not necessary to review in detail past effects of this legal action on schools. But, some recent interest has been voiced by congress to examine the tax-exempt status of private schools that are

predominately white and that seem to have been started in reaction to forced integration. Thus, all private and religous schools are potentially affected and some public schools have undergone changes due to a withdrawal of white students and teachers, mostly from the middle and upper class.

Finally, parents have begun to take action through the courts in order to have input concerning material taught in the schools. In California and New York, there are discussions concerning the use of competency tests. Parents are dismayed that students are graduating from high school with a lack of basic reading and mathematics skills.

Related to this notion of vulnerability is the observation that parents and the local community are more involved with the functioning of schools as organizations than they are involved with the functioning of private industry. A consumer who is dissatisfied with the octane rating of the gasoline available for his or her car has little opportunity to affect the major oil companies. But, parents dissatisfied with the sexual preference of a teacher or with the quality of education have rather direct access to the school board and to school administrators. Even discussions at school board meetings are often printed in local newspapers. Thus, the "closeness" of parents and the general public to the day-to-day operations of a school is another unique characteristic of schools as organizations.

Schools and school districts are also characterized by a lack of consensus concerning organizational goals and measurement of goal achievement (Carlson, et al, 1965; Meyer, Scott, Cole, and Intiti, 1978; Newman and Wallender, 1978). This means that schools operate in an environment where there is little knowledge of cause and effect, a general lack of information, and a variable time span of discretion. Although traditionally the rate of change in the environment has been slow, as discussed above, this may be changing.

Finally, schools as organizations have variability in input. Besides being dependent on outside agencies for funding, schools have little control over the number of students and the homogeneity of student needs (Carlson et al., 1965). A recent article in a Houston paper reported that over 90 different languages are spoken by students in the Houston Independent School District. Although large school districts can establish magnet schools for particular areas such as science, drama, and music, schools as organizations have less impact on their inputs than is usual for private industry.

In summary, schools as organizations operate in an environment that is not typical of profit making organizations. There is a dependence on outside sources for funding. Constituents have rather direct access to day-to-day operations, and there is little control over number of students and types of student needs. In addition, schools as organizations exist in an environment that is becoming less munificent and less lenient. There is a plurality of constituents with no clear consensus, and little regard to goals and how to measure organizational achievement.

The importance of the school board should not be overlooked. School-board membership often consists of people who have little formal training in education. Consequently, when the board operates in a managerial rather than a fiduciary capacity, there is the increased likelihood of conflict between professional school administrators and the school board (Carlson et al., 1965). Bidwell (1965) has emphasized the importance of the school board and has noted the scarcity of research in this area.

There does not appear to be any dominant structure that typifies schools as organizations. Although most schools are flat, school districts show considerable variation in horizontal and vertical differentiation

(Bidwell, 1965). Furthermore, this variation may be due in part to the many types of schools that can exist. Sarason (1971) discussed size, urban versus rural location, and consolidated versus non-consolidated as major factors. Of interest, however, is the general finding that schools have small technological investments. The largest component of the operating budget deals with employee salaries (Carlson et al., 1965).

Several writers have discussed the "disconnectedness" of schools as compared to other organizations (cf. Meyer et al, 1978; Meyer and Rowan, 1978; Weick, 1976). Meyer and Rowan (1978) observed that structure is not tightly linked with technical work activity and that technical work activity is not tightly linked with its effects. Weick (1976) used the term "loosely coupled" to depict the lack of functional relationships among subunits within the school. With the exception of certain activities such as scheduling, space, and hiring, which tend to be centralized and bureaucratic, the activities of separate systems within the school have little impact on each other (Meyer and Rowan, 1978). In other words, specialists, counselors, therapists, administrators, and teachers are largely independent. Each is buffered from each other, and each develops its own method of localized adaptation (Weick, 1976). This was demonstrated empirically in a study of San Francisco area schools. Meyer et al (1978) found little consensus on policy issues between superintendents and principals, between principals and teachers, and between teachers themselves.

This observation of loose coupling should not be interpreted as an indication of the absence of control and coordination. Meyer and Rowan (1978) found considerable evidence of institutionalization built around the rituals of credentialing and core curricula. Teachers, therapists, counselors, and others are professionals who have gained entry into the

system. They value their own latitude in performing job duties and they respect the latitude of others. The teacher is autonomous in the classroom and the counselor is autonomous in the office. Professionals as a rule do not respond well to close supervision, punitive regulations, and to excessive attempts to control their activities. The coordination comes from the institutionalized belief and trust held among professional members. Furthermore, many administrators are former teachers. As a result, administration tends not to violate accepted practices.

Related to the institutionalization of the school as an organization, several writers have reported that schools are characteristically slow to adopt innovations. There is a built-in resistance to change (Miles, 1964; Saranson, 1971). This may be important when excessive demands are made on the organization. If schools historically resist innovation in educational practices, then why would we expect to find receptivity to changes brought about by outside interventions? Furthermore, members do not have experience in working with one another and they do not have experience in considering the effects of changes in one area on other areas. During periods of organizational munificence, there are solutions for most problems and each unit can function separately. But, when slack is reduced, units may become "tightly coupled." There no longer are solutions to most problems and changes in one area may now have rather severe consequences for other areas.

Finally, it has been suggested that schools and other non-profit organizations are political systems (Cohen and Gadon, 1978; Newman and Wallender, 1978). A political system is one where the means and ends of the system are primarily determined by the management of influence and authority. Because schools are dependent on government and public will for funding, and because school boards and school administrators may differ

in expertise and opinion concerning the operation of the school, there is potential for considerable bargaining, influence, and counter influence at this level. Depending on the stakes involved, non-sanctioned means may be used to obtain sanctioned ends, or sanctioned means may be used to obtain non-sanctioned and perhaps disguised ends. Consider, for example, the consequences of a decision to drop varsity athletics as opposed to the decision to drop music, art, and drama classes. Both are reasonable alternatives under conditions of declining school funding. But, the local uproar likely to develop over the elimination of varsity athletics is probably going to be greater than that produced by the elimination of music, art, and drama. Consequently, there is an increased chance that the local community would be willing to support a bond issue or to raise contributions from business in order to maintain the athletic program.

This example shows that organizations can create their environments (Starbuck, 1976). But it also shows that political behaviors may be more likely to occur under periods of excessive demand than under periods of munificence. The most likely areas for political behavior may be the relationships between school administrators and the school board, or between the school board and the public. It may be, however, that during periods of excessive environmental demands this behavior involves other aspects of the school. It is unlikely that an athletic director would approve of the risk to drop varsity athletics in the hope that this would stimulate other sources of funding.

In summary, there are several characteristics of schools as organizations that must be considered when organizational research is conducted. Schools are vulnerable to environmental pressures and are easily accessed by constituents. Schools are composed of professional people with strong

commitments to their careers who have a history of being autonomous and loosely coupled. School board members usually are not trained in educational procedures yet they have considerable potential to impact day-to-day operations. Schools traditionally have been slow to adapt to changes and to innovate. Finally, the possibility of political behavior that may involve a considerable number of participants is strong under certain conditions.

The Concept of Stress

The focus of this report is on understanding the behavior of individuals and groups in schools that are in potentially stressful environments. Choice of stress as a concept was not arbitrary or designed to capitalize on the current popularity associated with the word. Rather, it is argued that the concept of stress, once clearly defined, is applicable to a variety of situations in the social sciences and is applicable to a variety of units of analysis.

This opinion has been stated by several social scientists from psychology and sociology. McGrath (1970) stated that ". . . the stress concept seems to hold much promise as an integrating concept through which we can make some fundamental connections among neighboring but isolated fields of physiology, psychology, sociology, medicine, and so forth." (p. 2). Kahn (1970) similarly argued that it is useful to think about stress and reactions to stress at levels of individuals and at levels of organizations. Mileti, Drabek, and Haas, (1975), in their research on human systems in extreme environments, voiced the belief that the concept of stress appears to offer a mechanism whereby research findings on natural disasters might be integrated into a larger body of literature across psychology and sociology. Furthermore, they proposed general systems theory as an important factor in considering

stress at different levels of analysis. Finally, Lazarus (1966) distinguished between three levels of analysis within the domain of stress theory and research: sociological, psychological, and physiological. The underlying emphasis here is not on the actual set of variables examined, but on the common theme of interpretation.

The utility of stress also can be seen in the similarity of system reactions to conditions that are perceived as stressful. This common set of responses, which will be called the stress cycle and will be discussed in greater detail later in the report, has been found to occur at the level of individuals (cf. Lazarus, 1966; Janis, 1971; Selye, 1956;), at the level of organizations (cf. Fink, Beak, and Taddeo, 1971; Haas and Drabek, 1973) and at the level of communities (Mileti, et al, 1975).

The definition of stress. Stress has been operationalized in several different ways and this inconsistency has contributed to the diversity of results in stress research. At the individual level, stress has been used to define physiological responses, cognitive evaluations, and decrements in performance. It has been used at times as a new "buzz" word to replace conflict, frustration, anxiety, and a number of other concepts. Stress has been attached to characteristics of a set of responses, to a set of situational or environmental conditions, and to the focal system-environment interaction.

There is some agreement, however, on the definition of stress when it is described as an interaction between the focal system and the environment. McGrath (1976), in his discussion of social psychological stress in organizations, stated that "... there is potential for stress when an environmental situation is perceived as presenting a demand which threatens to exceed the person's capabilities and resources for meeting it, under conditions where he expects a substantial differential in the rewards or costs from meeting

the demand versus not meeting it." (p. 1352). Haas and Drabek (1973), used the organization as the focal system when they defined stress as "... the organizational state or condition indicated by the degree of discrepancy between organizational demands and organizational capacity." (p. 251). The key notions are an imbalance between some external force on the system and the capacity of the system to respond. Furthermore, this imbalance must be in an area where failure to remove the imbalance is judged to be of considerable importance.

It should be noted that environmental conditions that create force on the focal system are not always harmful to the system. Consider a person working under a deadline. Depending on how this siutation is judged, it could be a negative, role-overload experience that interferes with behavior; or it could be a challenging experience that energizes action. Similarly, a company may experience a rapid increase in consumer requests for some product or service such that growth occurs in response to the change in demand.

A more general way of thinking about the types of environmental forces that fit within the stress concept has been proposed by Haythorn (1970). Environmental forces can have a <u>demand</u> function in that they compel or require certain sets of responses. These demands can be positive for the general state of the system or they can be negative. Second, forces can have a <u>constraint</u> function in that they preclude or prevent certain sets of responses from occurring. These contraints can be either positive or negative for the long-term state of the system. Finally, environmental forces can have a <u>potentiality</u> function where new sets of responses are permitted or are now possible, even though a specific response is not required or prevented. Again, there is no compelling reason why changes

in potential have to be positive or negative for the system.

For the purpose of this report, stress is identified when some environmental force is perceived by the system as a demand, constraint, or opportunity that creates an imbalance with regard to the system's current capacity to respond, and when this imbalance is judged to be of considerable importance such that failure to respond in some way is not desirable. This imbalance results from a change in environmental forces, from a change in the system's response capacity, or from both. Furthermore, this imbalance can be something that occurs suddenly, with or without warning, and it can be the accumulation of gradual changes such that failure to respond is no longer an acceptable response. Hans and Drabek (1973) referred to this time frame factor in their use of the terms chronic and acute stress.

Although it could be argued that this definition and conceptualization of stress is too general to be of much utility, one value of such a definition is that it allows several concepts to be subsumed within the stress framework. This is important given the general validity of the stress cycle found at different units of analysis, e.g., individual, group, organizational, and community. For example, several writers in organizational research have used basic notions of stress as developed here to describe other conditions that could be usefully studied when placed within the stress framework. March and Olsen (1976) have defined the term organizational slack as "... the difference between existing resources and activated demands." (p. 87). Although in this work and in the preceeding works of Cyert and March (1963) and March and Simon (1958) propositions were developed concerning the effects of organizational slack on the behavior of groups and individuals in organizations, these propositions lack a unifying mechanism that integrates the notions of slack to other related areas. Crisis is a second term that

is closely connected to stress research. Fink, Beak, and Taddeo (1971) defined it as "A human system (individual, group, organization, or other) is assumed to be in a state of crisis when its repertoire of coping responses is not adequate to bring about the resolution of a problem which poses a threat to the system." (p. 16-17). Similarly, Mulder, Ritsema, and de Jong (1971) defined organizational crisis as "A situation in which goals are at stake that are of high importance to the system when the probability that these (necessary) goals will be advanced is (too) small." (p. 21). The similarities between these definitions of slack and crisis to the proposed definition of stress would suggest that these concepts merit consideration within general stress research.

Some problems with stress. Even though the concept of stress appears to offer a mechanism whereby findings and concepts from several disciplines and units of analysis might be integrated into a large body of literature, the concept is not without its problems. Many of these are discussed by McGrath (1970, 1976) and Haas and Drabek (1973). First, a common metric is needed for measuring the degree of imbalance between some environmental force and the response capacity of the system. Otherwise, stress research becomes ipsative and ideographic. Second, measures of responses to conditions defined as stressful show little convergence. This is seen in research on human physiological changes. Third, attempts to define the existence of a stress condition by the set of responses stress is hypothesized to produce is methodologically weak. Fourth, stress may occur for several different reasons and these may happen singly or in combination. Finally, different types of imbalance may produce different perceptions of stress for different parts of the system. Nevertheless, the concept does appear to be useful

at least for now, and meaningful research can be designed that is sensitive to the problems mentioned.

The Stress Cycle

The stress cycle refers to the: (1) process of response following the occurrence of a change in the relationship between environmental demand-constraint-opportunity forces and the response capacity of the system, and (2) structural factors that affect the response process. Thus, through consideration of the stress cycle, it is possible to identify particular sets of responses that merit attention, the nature of exchanges between and among parts of the overall system that is in a state of stress, the temporal sequence of these responses and exchanges, and the conditions that facilitate, inhibit, and in other ways shape the progression of the response process itself.

The stress cycle to be described is seductively simple. Yet, it has been proposed by researchers looking at several units of analysis and has been supported with empirical data. The following discussion is based on the work of Fink, Beak, and Taddeo (1971), Janis (1971), Kahn (1970), Lazarus (1966), McGrath (1970, 1976), Mileti, Drabek, and Haas (1975), and Selye (1956).

As McGrath (1976) put it, the stress cycle starts when something happens "out there" that presents a system with a demand, a constraint, or an opportunity for response. This class of events can collectively be called the stress event. Second, there is recognition of the stress event by the focal system or by a part of the focal system. Through an appraisal process, the focal system attends to the stress event and evaluates the consequences of the stress event. Third, depending on the outcome of

this appraisal process, some set of responses is emitted. If the stress event is judged to be of little consequence, then a response of "no response" or the response of continued monitoring is likely. But, if the stress event is judged to be of considerable consequence for the normal functioning of the system, that is if it is judged to disrupt the system's equilibrium, then some set of responses will occur in direct reaction to perceptions of the stress event. This can be referred to as the response process. Fourth, there are consequences of the response process. Depending on how these consequences are perceived, the system either responds again in relation to the stress event, or the stress event loses its motivational properties and the system returns to a steady state. This steady state may be similar to or different from that which existed prior to the stress event. Once the stress event has been successfully dealt with, there is a stabilization process of readjustment to the new steady state.

The Stress Cycle as Applied to Educational Organizations. Being guided by notions of the stress cycle, literature was reviewed from the disciplines of psychology, sociology, education, and political science. Based on the reviewed literature, it was possible to identify several sets of variables that could be incorporated in the study of individual and group behavior in educational organizations that are experiencing conditions where the stress cycle might operate. These variables sets are listed in Figure 1.

First, at the top of the figure is placed the stress event. Consideration of the nature of the stress event is complex, but as stated by Haas and Drabek (1973) this is a useful concept if only for heuristic purposes. Major considerations are the source or sources of the imbalance, the degree to which the imbalance could be described as chronic or acute, and the scope or severity of the imbalance. Sources of imbalance refer

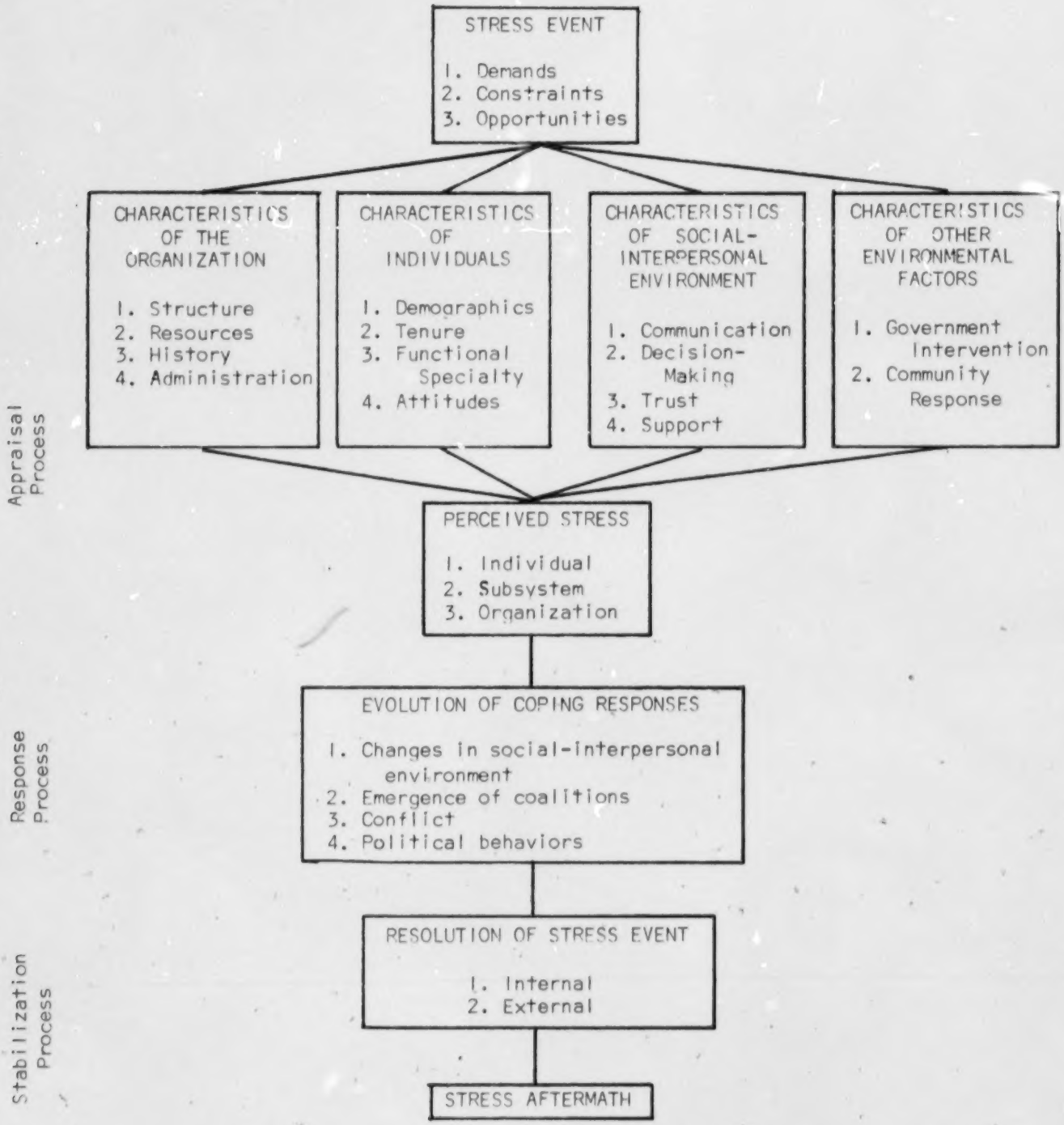

Figure 1. Framework for the Stress Cycle with Examples of Salient Variables

to the degree of changes in demands, constraints, and opportunities, or to changes in some combination of these. The distinction between chronic and acute stress deals primarily with the degree to which the imbalance was unexpected. Finally, the scope refers to the severity of the imbalance, the degree to which the imbalance effects the entire system or only parts of the system, the degree to which the imbalance can be controlled, and the time frame of the imbalance. The stress event is continuous rather than discrete, and is composed of several components.

In educational organizations, the imbalance created by the stress event can occur in several ways. First, there can be changing patterns of funding at local, state, and federal levels. These changes can occur gradually or suddenly, as with the failure to pass a bond issue. Second, declining or accelerating enrollments can create an imbalance. Although this factor would usually be gradual, rapid shifts in populations can occur. Third, government intervention such as busing and equal employment in hiring can impact on the day-to-day as well as long-term functioning of the school. Fourth, changes in public attitudes toward education and in concern for demonstrated accountability should be considered. Fifth, factors dealing with teacher unionization are relevant. The possibility of unionization, choice of a particular union as the bargaining agent, and the occurrence of teacher strikes over wages, benefits, and teaching conditions would classify as stress events. Finally, disasters such as floods, fires, earthquakes and tornadoes could damage the physical structures of schools and communities such that considerable disruption results.

These are just a few factors that could be listed. The important point is that schools as non-profit organizations, dependent on public funding, and as plural organizations, serving plural environments, are

in many ways vulnerable to factors that can create an imbalance and that can be incorporated into a study of organizational stress.

The appraisal process represents the next stage in the stress cycle. This refers to factors that influence how the stress event is recognized, perceived, and evaluated by the system as a whole and by parts of the system. The appraisal process is important for human systems such as individuals, groups, organizations, and communities. It represents an important area where a stress-strain analogy from engineering would not be applicable. A bridge does not sense or recognize the load placed on it and a bridge does not respond as an active system that can exert counter pressure on the load. The importance of the appraisal process should not be underemphasized.

Relevant factors in the appraisal process for educational organizations are: (1) characteristics of the external environment in which the school exists, (2) characteristics of the school as an organization, (3) characteristics of individuals who are members of the organization, and (4) characteristics of the social-interpersonal environment of the organization. These factors will be discussed separately, however, it should be realized that they can and do interact.

Although a review of the literature did not result in a specific list of factors in the external environment, other than the stress event itself, that may be important in the appraisal process, a few things seem relevant when considering schools as organizations. Perceptions of stress by organizational members may vary by the perceived beneficence of the environment. If the environment historically has come to the aid of the school during past periods of stress, then the current stress event may be evaluated as less likely to have considerable effects on school functioning.

Second, if the environment is perceived to possess necessary resources, the stress event also may be evaluated as less severe. And third, the presence of public and elected official concerns over the importance of the stress event for the school should be considered. For example, there may be community efforts to raise contributions for the continuation of a threatened varsity athletic program but there may be no such activities for art, music, and drama programs.

Considerable research in organizational sociology and organizational behavior was found to be relevant in terms of characteristics of organizations. Hall (1977), Lawrence and Lorsch (1967), Pondy (1967) and Thompson (1967) state that the structure of the organization may affect the likelihood that internal conflict will result over important issues. Similarly, Dearborn and Simon (1958) noted that the manner in which a problem is defined is predictable from knowledge of member background and unit membership. Pfeffer (1978) listed member subunit loyalty and identification, differences in information, and differences in unit functions and technologies as additional factors that can contribute to the perception of events.

General factors of organizational structure that are important for understanding how members evaluate the stress event include complexity, centralization, and formalization.

Complex school districts, which have considerable horizontal and vertical differentiation, may lead to the formation of particularistic goals and values for unit members. Goal incompatibility is more likely to occur in highly differentiated organizations. Problems associated with communication and coordination also increase with complexity. Finally, in complex organizations and in loosely coupled organizations, the stress event may be localized within particular units rather than spread across the organization

as a whole. This could occur as a result of differentiation where units develop their own methods of adaptation. Thus, given the existance of a lack of consensus among school board members, principals, and teachers, which was mentioned earlier as a characteristics of schools as organizations, organizational complexity may be an especially important variable for understanding how the stress event will be perceived.

Centralization refers to the locus of formal control within the organization. It includes such factors as the locus of decision-making authority, the hierarchy of authority, autonomy, and participative decision-making (Ford and Slocum, 1977). High centralization facilitates the degree to which top administrators can coordinate and mobilize the activities and values of participants. In cases where quick action must be taken, high centralization is preferred (Hall, 1977). Centralization also would affect communication within the organization. Consequently, under situations of acute stress, centralization might be especially important for the transmission and accuracy of information concerning the reception and evaluation of the stress event. For example, errors and rumors could be more easily traced, monitored, and changed. But, as Pfeffer (1978) noted, centralization also could interfere with decision-making because of information overload.

Finally, formalization refers to the degree to which rules and procedures are specified and adhered to (Ford and Slocum, 1977). Formalization and centralization are alternative forms of coordination and control. High formalization is functional when problems can be anticipated and procedures can be designed to deal with them. Thus, the existence of a procedure for dealing with school closings and teacher layoffs should affect the perception of a stress event that deals with declining enrollments. But, high formalization is dysfunctional for reacting to unprogrammed

situations *Hall, 1977). The degree of formalization may be more important for understanding perceptions to acute stress rather than to chronic stress.

It follows that organizational structure may affect the degree to which individuals believe that the organization can respond to a severe imbalance because structure affects (1) the process of communication and information flow and of member interaction, and (2) the parameters that specify rules and procedures.

A second characteristic of the organization deals with the quality and experience of top administration. Newman and Wallender (1978) state that charismatic leadership and influence based on expertise rather than on formal authority are important in non-profit organizations that include many professionals as members. This would apply to schools as organizations. Similarly, Mulder et al (1971) report that leadership is especially important during crisis situations. We do not mean to consider traditional social-psychological factors of leader behavior such as consideration and initiating structure. Rather, we mean the role of administration as resource allocator, decision-maker, and systems planner. There is little research on this aspect of administration, so it is difficult to present a list of factors that would denote quality administration. But, the impact of administration, regardless of whether the administration is good or bad, would probably be greatest during periods of stress and in organizations that are centralized, formalized, and not complex. Failure to take action, or the choice of incorrect actions on the part of top administration could increase the severity of perceptions concerning the stress event. Also, organizational structure would affect the degree to which top administration could take quick and decisive action.

Finally, two other important factors are organizational resources and organizational history. Availability of resources that can be reallocated may affect perceptions of stress to the extent that these resources are known to participants. Also, the history of the organization in dealing with past stress events may be relevant.

Knowledge of important individual characteristics that could predict how the stress event is appraised may be identified using the notion of frame of reference. As defined by Smith, Kendall, and Hulin (1969), frame of reference states that a person evaluates some situation or object on the basis of past experiences, perceptions of available alternatives, and expectations. Demographic variables such as age, sex, marital status, number of dependents, and level of education may be surrogate measures for frame of reference. Knowledge of individual tenure, level in the organization, and functional speciality are other relevant factors. We might expect a person with high tenure who is head of the high school mathematics department to perceive less stress at the individual level due to budget problems than a recently hired untenured teacher who is in the elementary education art program. Other individual characteristics include beliefs concerning professionalism, organizational commitment, and person and organizational goals and priorities. Corwin (1973) in a study of curriculum changes in schools found professionalism and goals to be especially relevant for understanding individual reactions to change.

The final factor that is relevant for the appraisal process is the nature of the social-interpersonal environment of the organization. This refers to perceptions and behaviors of organizational members concerning the norms of appropriate behavior within the organization, the past history of interpersonal exchanges, the potential for future interaction, and the

state of current interpersonal functioning. Important characteristics include such things as: (1) trust, (2) cohesion, (3) mode of informal decision-making, (4) distribution of power, (5) communication frequency, openness, and accuracy, (6) competitiveness, (7) supportiveness, (8) degree of shared beliefs and preferences, (9) degree of unresolved or latent conflict, and (10) existance of coalitions. For example, if organizational members describe the social-interpersonal environment with terms like distrust, rigid, manipulative, competitive, covert, and overly emotional, we might expect a greater perception of stress to a proposed budget cut or a school closing and greater likelihood of destructive conflict behaviors and unsanctioned influence attempts than if organizational members described the social-interpersonal environment with terms like supportive, collaborative, open to new alternatives, cooperative, and honest.

The social-interpersonal environment also may affect the manner in which attributions are made about the stress event. Kilmann and Thomas (1978) proposed an attribution analysis in terms of conflict, but it also is relevant to the evaluation of a stress event. First, attributions can be made to process factors or to structural factors. Process deals with the temporal sequence of behaviors and exchanges. Structure deals with conditions that influence behavior. Second, attributions can be made to internal factors or to external factors. Internal factors deal with characteristics of individuals or parties involved. External factors deal with characteristics of outside agencies or people outside the organization. Not all stress events can be classified on both dimensions. For example, a natural disaster that destroys a school building would be a structural attribution that is external, but it is difficult to identify

the outside party or parties involved. But, a teacher strike could be attributed to internal process factors such as friction between the teachers and the school board, or to external structural factors such as lack of funds due to a change in the state school funding formula. Part of the appraisal process involves ascertaining the "cause" of the stress event.

Finally, the appraisal process also must be examined from the perspectives of individuals, units within the system; and the entire system itself. A teacher strike may affect the entire system, which in this case is the school district. But, a decline in enrollments may primarily be perceived as affecting only those individuals with little tenure. Similarly, a budget cut may be perceived differently by people in the core curriculum areas of Math, Science, and English than by people in areas such as Art, Music, and Drama, or by people in therapy and counselling. This is shown in Figure 1. The perception of stress is the result of the stress event and characteristics of the organization, the external environment, the social-interpersonal environment, and of individuals.

The response process is the next stage in the stress cycle. There would appear to be two major types of response patterns. One response pattern could be evaluated as functional in terms of coping with the stress event, whereas the other could be described as dysfunctional. This distinction, however, should be thought of as lying on a continuum rather than as two discreet response patterns.

The major determinants of a functional response are: (1) the degree of past cooperation among parties involved, (2) the degree of an organization-wide sense of cohesion, (3) the belief that all participants share in a common threat that can be minimized through joint efforts, and (4) the

belief that a clear solution agreeable by all parties involved can be reached. These notions have been suggested by researchers from a wide variety of disciplines (cf. Deutsch, 1973; Hamblin, 1958; Janis, 1963; Katz and Kahn, 1966; Lott and Lott, 1965; March and Simon, 1958; Sherif, 1966; Stein, 1976; and Thomas, 1976). To the extent that these conditions exist or can be made to exist soon after the stress event occurs, we would expect to find honest collaboration and a minimum of conflict over issues that result from the stress event.

But, complex organizations are made up of individuals who (1) have had different socialization experiences and training, (2) belong to different formal and informal groups, (3) have different goal priorities and outcome preferences, (4) have different personalities and human relations skills, and (5) are differentially motivated to preserve and enhance their own self-interests and the interests of the groups to which they belong (Cyert and March, 1963; March and Olsen, 1976; Pfeffer, 1978). Thus, the potential for conflict and the display of political behaviors are always present to some degree. Further, some extent of conflict and politics within organizations is desirable (Pfeffer, 1978; Schmidt and Kochan, 1972; Tushman, 1977).

These conflict and political behaviors, however, are most likely to occur duing periods of stress. March and Simon (1958) stated that when organizational slack exists, there are many solutions to different problems, but when slack is diminished, the potential for conflict is increased. Also, it may be that the severity of perceived stress will be curvilinearly related to the degree of functional coping. Building on the work of Selye (1956) and Janis (1971), which looked at individuals, it would appear that under minor stress it is relatively easy to cope effectively at least in the short run. These behaviors may not result in long term resolution

of the stress event, but at least they alleviate the imbalance in that time-context situation. Under moderate stress, the focal system is sufficiently "aroused" to be attentive to salient factors and to seek an acceptable resolution. But, under severe stress, the focal system may be so disrupted that it is difficult to assess the situation accurately or to engage in the most direct behaviors with regard to the source of the imbalance. It should quickly be noted that there are many methodological problems associated with the testing of any proposed curvilinear relationship. The problem with stress is compounded by a lack of common metric on which to measure the objective imbalance or the perception of stress.

It perhaps would be useful to offer some recent definitions of conflict and political behavior that have benefited from past work before we proceed further. Schmidt and Kochan (1972) stated that, "...conflict... refers to overt behavior arising out of a process in which one unit seeks the advancement of its own interests in the relationship with others." (p. 363). Thomas (1976) offered a different definition which stated that, "...conflict is the process which begins when one party perceives that the other has frustrated or is about to frustrate some concern of ...(the first party)." (p. 890, material in parentheses added by this author). The important aspects of these two definitions are that the goals or interests of the focal party are perceived to about to be frustrated or that some behavior has already occurred that frustrates the goals or interests of the focal party. Conflict is different from competition in that the latter deals with parallel striving to a mutually exclusive position whereas the former includes the use or perception of the potential use of interference by one or more parties (Schmidt and Kochan, 1972).

Politics in organizations has been defined by Tushman (1977) as,

"... the structure and process of the use of authority and power to effect definitions of goals, directions, and other major parameters of the organization." (p. 207). Mayes and Allen (1977) defined organizational politics as, "...the management of influence to obtain ends not sanctioned by the organization or to obtain sanctioned ends through non-sanctioned means." (p. 675).

The definitions of conflict and organizational politics are similar. They both deal with the protection or enhancement of one's position in situations where failure to do so is less desirable than the anticipated outcome from engaging in some behavior. They also involve exchanges between two or more parties within some context. The major distinction would seem to involve the use of non-sanctioned means or the establishment of non-sanctioned ends.

Returning to the discussion of individual and group behavior in educational organizations that are in stressful environments, it would seem likely that conflict and organizational politics would be most likely to occur and to be dysfunctional under periods of severe stress. To the extent that no one acceptable solution exists, we might expect to find the formation of self-interest groups or coalitions with members who share perceptions and values (cf. Dalton, 1959; Gamson, 1968; Katz, 1964; Pfeffer, 1978; Stein, 1976; Thomas, 1976). These self-interest groups or coalitions may then engage in power struggles or political behaviors. Research from a variety of disciplines suggests that these power struggles, especially under severe stress, cna be characterized by: (1) distortion of communication, (2) suspicion, (3) polarization of opinions, (4) reduced time perspective, (5) emotional behaviors, (6) centralization of authority, and (7) other behaviors designed to enhance one's own position relative to

others (cf. Deutsch, 1973; Dalton, 1959; Gamson, 1968; Katz, 1964; Hermann, 1963; Laumann, Marsd[illegible] and Galaskiewics, 1977; March and Olsen, 1976; Mulden, et al., 1971, Pettigrew, 1973; Smart and Vertinsky, 1977; Walton and Dutton, 1972). What might result from this is that a win-lose orientation will develop, alternative or integrative solutions will not be considered, and the most powerful coalition or coalitions will advance their position at the expense of the other parties involved and possibly at the expense of the organization itself or the constituents of the organization. Earlier the teacher's strike in Levittown, New York was discussed (Time, November 27, 1978). Examination of this event shows that no one party to the dispute emerged in a better position than they were in before the strike. The same thing can occur due to declining enrollments, cuts in school funding, or even rapid growth.

The notion of conflict, political behavior, and dysfunctional responses to organizational growth deserves some attention. Rapid growth of a school district can create a severe imbalance just as rapid decline can create a severe imbalance. Only here, the objective may be more like empire building than survival. Coalitions may form around issues concerning the allocation of new resources rather than around the allocation of scarce resources. This aspect of behavior in organizations has received little attention. Although there may be many solutions to a variety of problems, expectations are raised. Consider for example the sequence of events that might occur in a school district that must build a new school every other year. This is not an unreasonable situation in areas such as Houston, the Pacific Northwest, or the shale-oil area of Colorado. In-fighting might develop over priorities. For example, what is more important, the latest equipment for the chemistry lab, computer assisted

teaching terminals for the language department, or a football stadium which can seat 5,000 spectators? Again, a win-lose situation could develop such that sub-unit or individual self-interests are maximized at the potential expense of the major goals of the school, the students, and the community.

Hannan and Freeman (1978b) argued that internal politics is likely to be more intense during organizational decline than during organizational growth. They based their conclusion on data from school districts that measured attendance, number of teachers, number of administrators, number of pupil service employees, (e.g., counselors), and number of classified employees (e.g., kitchen help). Basically they found that patterns of relationships were different during periods of growth than decline. During growth, teachers were added at a faster rate than administrators, but during decline, teachers were dropped (e.g., fired, vacancies not filled) at a faster rate than administrators. This is valuable information. But without measurement of what went on "inside" the organizations during these periods, it is difficult to unambiguously conclude that internal politics is greater during decline. The composition of the organization changed but we do not know how or why these decisions were reached.

The view presented here is that in order to understand more completely the reactions of schools under stress, we must consider individual and group behavior within the organization in addition to characteristics of the organization and the stress event.

The stabilization process is the final stage in the stress cycle. As a result of internal or external forces, some more or less final decision or solution will be implemented. To the extent that this restores balance to the organization-environment exchange, the stress event will lose motivating

properties. This is followed by stress aftermath. Stress aftermath is characterized by a stabilization of the social-interpersonal environment, with possibly new interpersonal relationships of day-to-day activity patterns. These patterns may be quite dissimilar from what existed prior to the stress event. Characteristics of the organization also may have changed. Preventive coping in terms of formalized rules and procedures for dealing with future stress events may be developed, resources may be stockpiled, and the composition of organizational membership may be altered due to hirings and layoffs. The organization in essence has negotiated a new equilibrium level.

The importance of the stabilization process is that it prepares the organization for the next stress event, and it lays the groundwork for working through new patterns of exchange during the equilibrium period. It should not be assumed that the stabilization process and stress aftermath are periods of inactivity. The organization is not dormant, but is functioning under a new set of demands, constraints, and opportunities.

Working Assumptions: A Summary of the Report

Several writers from the areas of conflict, organizational behavior, and education have stated the need for descriptive work on processes of the type discussed in this report (cf. Corwin, 1969; March and Olsen, 1976; Saranson, 1971; Thomas, 1976). The development at this time of specific hypotheses would be unwise given the absence of general descriptive knowledge. Also, problems with the explicit or implicit use of assumptions concerning the nature of organizations and their effects on the types of research questions that are pursued were discussed earlier in this paper.

Nevertheless, it would seem useful to summarize this report with the

presentation of some general working assumptions. These working assumptions are offered so that research could be designed in a meaningful way with a focus on describing factors and events. These working assumptions are stated so as to be of heuristic value.

The first two working assumptions note the dynamic and reciprocal nature of relationships between and among systems.

A.1. Organizations and subsystems within organizations adapt to and create environments such that demands, constraints, and opportunities are in balance with response capacities.

A.2. Imbalance between environments, organizations, and subsystems within organizations occurs when demands, constraints, and opportunities exceed in either direction current response capacities.

The next two working assumptions attempt to emphasize the possibility that schools as organizations should not be studied entirely as if they were identical to private industry, government, or other organizational forms.

A.3. Schools as organizations are dissimilar from other major organization types.

A.4. Schools as organizations are particularly vulnerable to changes in environmental forces.

The fifth working assumption emphasizes the need to consider both micro-level factors and macro-level factors, and the notion that environmental forces can have different effects on different parts of the organization.

A.5. Within the school as an organization, individual perceptions of

the severity of stress for the individual, the unit in which the individual works, and the organization as a whole will be a function of individual characteristics, social-interpersonal environmental characteristics, organizational characteristics, and other forces in the external environment.

The final three assumptions pertain to possible system responses to the stress event.

A.6. Perceived stress will be related to the magnitude of disturbance in the social-interpersonal environment. This could be indexed by changes in: (1) the perceptual and behavioral nature of the social-interpersonal environment, (2) communication frequency and accuracy, (3) emergence of coalitions, (4) individual participation in decision-making, and (5) task related activities.

A.7. Disturbance in the social-interpersonal environment will be beneficial to the state of the organization to the extent that: (1) a single solution to the stress event is seen as acceptable to influential parties, (2) the stress event is perceived as a threat on the entire organization and not limited to specific subsystems or individuals, and (3) an organization-wide sense of unity is achieved in terms of few opposing coalitions, shared values and goals, open communication, consideration of short and long range time perspectives, and an integrative solution is developed.

A.8. Disturbance in the social-interpersonal environment will be dysfunctional to the state of the organization to the extent that: (1) no single solution is seen as acceptable to influential parties, (2) the stress event is perceived as a threat to specific

subsystems or individuals, (3) coalitions form around outcome preferences, (4) influential people have incompatible outcome preferences, (5) influential people belong to opposing coalitions, and (6) opposing coalitions do not share common communication links.

Suggestions for the Conduct of Research

Current thinking and theorizing about organizations has benefited from general systems theory. Attention has been given to dynamic processes involving environments, organizations, and various levels of subsystems within organizations. The ideas presented in this paper reflect this trend.

Research methodologies have not been developed, however, that deal efficiently with the complexities involved. Tichy, Tushman, and Fombrun (1978) note that this has resulted in a disjuncture between frameworks used to conceptualize organizations and the methods used to capture organizational processes. The purpose of this discussion is to briefly comment on some issues that pertain to field research on organizations.

First, given the proposed dynamics of current theorizing, it is important that longitudinal designs be employed. This is especially relevant for research on individual and group behavior and responses to external organizational stress because stress is thought to interrupt ongoing behavior (Wieck, 1970). This means that we must first understand something about ongoing activity before stress occurs so that we can understand behavior in reaction to stress.

Second, logistical and analytical problems associated with sample size and units of analysis are not easily solved. For example, one attempt to study the effects of external organizational stress on the behaviors

of individuals and groups would be to employ massive studies that include 30, 40, or more school districts. In this way effects of organizational structure could be examined as well as individual behavior within specific organizations. But, this approach would be very expensive and creates numerous problems that need not be specified here. Campbell (1977) suggests consideration of simulations or case study methods as possible alternatives. Although these procedures have problems (cf. Bouchard, 1976), case studies are useful for hypothesis generation (cf. Pettigrew, 1973) and simulations can be designed that allow for limited tests of theoretical relationships (cf. Drabek, 1969).

The approach that is suggested here is an attempt to conduct field research on a small number of organizations with reliance on the use of a taxonomy of organization characteristics and a carefully planned assessment package. It is a variation of the N=1 case study approach using time series designs with non-equivalent no treatment control groups. The objective is to select a small number of organizations that vary meaningfully on thereotically relevant organizational characteristics. This is where a common taxonomy of organizations would be useful. The next step is to select organizations that differ on some environmental factor of concern. The third step is to collect data over an appropriate time period. To the extent that patterns of relationships change as a function of organizational characteristics and environmental forces, and that data from several methods and sources converge, then reliable and valid conclusions can be drawn from studies that use a minimal number of organizations. Additional studies would follow-up initial work by varying level of the same organizational characteristics, or by varying choice of characteristics. For example, the effect of declining and increasing

enrollments in school districts could be studied by carefully selecting school districts on the basis of size, location, structure, and so forth, and by selecting them on the basis of rate of growth and decline. The effects of complex versus simple organizational structure and growth versus decline could be studied in depth over time using as few as four school districts. Obviously, this would not be as strong a test of organizational complexity and organizational growth as would be attainable with a sample size of 40 organizations. But, the smaller design could be a reasonable trade-off between logistics and utility of information acquired.

The final point to be discussed in this section concerns the empirical study of behavior in organizations. A methodology is needed that adequately describes changes in the social-interpersonal environment. Organizations are social systems. People are joined by a variety of relationships and exchanges that pertain to such things as communication flow, affect, task-flow dependencies, influence, power, evaluation and opinion. The richness of these exchanges needs to be fully described and understood.

A possible and promising solution to the study of relationships just described seems to be the general use of a network analysis framework. Network analysis is a modification of sociometric choice data. Tichy et al (1978) state that networks are based on (1) a structural-functional theory of determinants of reoccurring social relations, (2) an exchange theory of the development and nature of relationships between actors, and (3) role theory.

The basic objective in network analysis is to categorize individuals into cliques, groups, or coalitions on the basis of a variety of interaction patterns. Although this approach has been most widely used in the study of communication within organizations (Rogers and Agarwala-Rogers,

1976), it need not be limited to communication behaviors (Kadushin, 1977). A second advantage is that network analysis produces data that can be interpreted at levels of the individual, the group, and the organization. For example, an individual can be identified as a gatekeeper, a liaison, an isolate, or an opinion lender; and a group or organization can be identified in terms of connectedness, dominance, openness, and integration. Examination of network changes over time, such as before and after the failure to pass a bond issue for increased school funding, could be used to describe changes in the social-interpersonal environment of a school district. At the present time, however, network analysis data is time consuming to collect and requires that all or almost all of the people in the organization or unit under investigation be sampled. But, given the use of the modified N=1 approach that was described earlier, this would not preclude the use of network analysis.

Conclusion

The purpose of this report was to consider factors that might be important for understanding how schools as organizations respond to environmental stress. A considerable body of literature was reviewed and an attempt was made to integrate this literature using concepts from general systems theory and from stress research. It was concluded that a complete understanding of schools as organizations will not be attained until theory is developed and research is conducted that attempts to consider simultaneously factors at different levels of analysis. This will not be an easy task. The paradigms and research methods of psychology and sociology do not naturally converge even when they are directed at the same object of study as is the case with behavioral science research on organizations. Finally, some suggestions

for the conduct of research were offered in the hope that future efforts to study schools as organizations would include concepts from psychology and sociology.

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